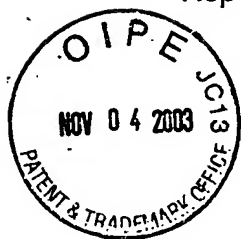


**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL00/00639

Reference is made to the following documents, previously cited in the International Search Report:

- D1: WO-A-99 31494 (AROMASCAN) 24 June 1999
D2: DE-A-195 09 518 (INST CHEMO BIOSENSORIK) 26 September 1996
D3: DE-A-28 45 269 (MESSERSCHMITT BOELKOW BLOHM) 30 April 1980
D4: DE 34 37 950 A (TARUTTIS ARNO H DIPL ING) 18 April 1985



Re Item IV

Lack of unity of invention

1. The application is not unitary (Rule 13.1 PCT) and relates to four separate inventions which constitute the subject-matter of the following groups of claims:
 - i) claims 1-8, 11, 17 and 18 for a moisture sensor comprising an electric circuit and ICPs, wherein the ICPs form part of a capacity, the electric circuit being arranged for detecting a change in capacity;
 - ii) claims 9, 10 and 17, for a moisture sensor comprising an electric circuit and ICPs, wherein the electric circuit comprises a transponder incorporated into a casing including ICPs;
 - iii) claims 12-15 and 17, for a moisture sensor comprising an electric circuit and ICPs, wherein the sensor comprises a current-conductive fabric comprising ICPs; and
 - iv) claims 16-18, for a moisture sensor comprising an electric circuit and ICPs, wherein the sensor comprises at least two layers including ICps and a moisture-absorbing dielectric located between said layers, the electric circuit being arranged for detecting a voltage difference between said layers.
2. The four separate inventions cited above are not linked so as to form a single general inventive concept for the reasons listed below.

The technical relationship among said inventions is that they concern a moisture

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

PRINS, A.W.
VEREENIGDE
Nieuwe Parklaan 97
NL-2587 BN The Hague
PAYS-BAS

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

| | |
|-------------------------------------|------------|
| Date of mailing (day/month/year) | 02.01.2002 |
|-------------------------------------|------------|

| | |
|---|-------------------------------|
| Applicant's or agent's file reference P48810PC00 | IMPORTANT NOTIFICATION |
|---|-------------------------------|

| | | |
|---|--|--|
| International application No. PCT/NL00/00639 | International filing date (day/month/year) 11/09/2000 | Priority date (day/month/year) 09/09/1999 |
|---|--|--|

Applicant

TELESENSING HOLDING B.V.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

| | |
|---------------------------------------|--------------------|
| Name and mailing address of the IPEA/ | Authorized officer |
|---------------------------------------|--------------------|



European Patent Office
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Weber, R



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|--|---|---|
| Applicant's or agent's file reference P48810PC00 | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/NL00/00639 | International filing date (day/month/year) 11/09/2000 | Priority date (day/month/year) 09/09/1999 |
| International Patent Classification (IPC) or national classification and IPC G01N27/22 | | |
| Applicant TELESENSING HOLDING B.V. | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 9 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

| | |
|---|--|
| Date of submission of the demand 27/02/2001 | Date of completion of this report 02.01.2002 |
| Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d | Authorized officer Filipas, A  |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00639

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-11 as originally filed

Claims, No.:

1-18 as originally filed

Drawings, sheets:

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00639

- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

☐ restricted the claims.

☐ paid additional fees.☐ paid additional fees under protest.

☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

☐ complied with.

☒ not complied with for the following reasons:
see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

☐ all parts.

☒ the parts relating to claims Nos. 1-8,11,17,18.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 2-8,11,17,18
No: Claims 1

| | |
|---------------------|-------------------------|
| Inventive step (IS) | Yes: Claims |
| | No: Claims 1-8,11,17,18 |

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL00/00639

Industrial applicability (IA) Yes: Claims 1-8,11,17,18
 No: Claims

2. Citations and explanations
 see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL00/00639

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Re Item IV

Lack of unity of invention

1. The application is not unitary (Rule 13.1 PCT) and relates to four separate inventions which constitute the subject-matter of the following groups of claims:
 - i) claims 1-8, 11, 17 and 18 for a moisture sensor comprising an electric circuit and ICPs, wherein the ICPs form part of a capacity, the electric circuit being arranged for detecting a change in capacity;
 - ii) claims 9, 10 and 17, for a moisture sensor comprising an electric circuit and ICPs, wherein the electric circuit comprises a transponder incorporated into a casing including ICPs;
 - iii) claims 12-15 and 17, for a moisture sensor comprising an electric circuit and ICPs, wherein the sensor comprises a current-conductive fabric comprising ICPs; and
 - iv) claims 16-18, for a moisture sensor comprising an electric circuit and ICPs, wherein the sensor comprises at least two layers including ICPs and a moisture-absorbing dielectric located between said layers, the electric circuit being arranged for detecting a voltage difference between said layers.
2. The four separate inventions cited above are not linked so as to form a single general inventive concept for the reasons listed below.

The technical relationship among said inventions is that they concern a moisture

sensor comprising ICPs (the electric properties of which are dependent on the amount of moisture with which they come into contact) and an electric circuit arranged for detecting a change of the electric properties of the ICPs.

Said technical features which are common to the four separate inventions do not define a contribution over the prior art in the sense of Rule 13.2 PCT (see also the PCT Preliminary Examination Guidelines, III-7.2) - see e.g. the disclosure of D1 (in particular page 1, lines 4-22 and page 4, lines 3-4) or the first paragraph on page 1 of the description of the present application. The requisite unity of invention (Rule 13.1 PCT) no longer exists inasmuch as a technical relationship involving one or more of the same or corresponding **special** technical features does not exist between the subject-matter of the four separate inventions.

4. In the absence of any response from the applicant to the invitation to restrict the claims or to pay additional examination fees, the present international preliminary examination report was established only on those parts of the international application which relate to the subject-matter of the independent claim 1 (with dependent claims 2-8, 11, 17 and 18), considered to represent the main invention.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The subject-matter of the independent claim 1 is anticipated by document D2, which discloses (see in particular page 3, lines 16-17, page 6, lines 14-24 and page 7, lines 12-13):

a sensor comprising an electric circuit and ICPs (intrinsic conduction polymers), electric properties of the ICPs being dependent on the amount of moisture with which they come into contact (as known in the art, see e.g. page 1, lines 20-22 of D1 or page 1, lines 7-10 of the present application) and the electric circuit being arranged for detecting a change of the electric properties of the ICPs, wherein the ICPs form part of a capacity, the electric circuit being arranged for detecting a change of the capacity.

The phrase "...for detecting moisture..." is to be construed as meaning merely suitable for detecting moisture. Since there is no reason to assume that the sensor of document D2 is not suitable for detecting moisture, said phrase does not provide a limitation in the scope of claim 1 in this case (in this respect, see PCT International Preliminary Examination Guidelines III-4.8).

Hence, claim 1 appears not to be novel (Article 33(2) PCT) in view of the disclosure of document D2.

2. On the other hand, when starting from D3 as relevant prior art, the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT for the reasons listed below.

Document D3 discloses a moisture sensor from which the subject-matter of claim 1 differs only in that intrinsic conduction polymers (ICPs) are used as the sensitive element (the electric properties of which depend on the amount of moisture) of the sensor.

The problem to be solved by the present invention may therefore be regarded as providing an alternative to the moisture sensor of D3.

Since it is known that the electric properties of ICPs depend on the amount of moisture with which they come into contact (see e.g. page 1, lines 20-22 of D1 or page 1, lines 7-10 of the present application), the skilled person would regard it as a normal option to at least consider the use of ICPs as the sensitive element of the sensor described in D3, thereby arriving at a moisture sensor according to claim 1.

3. The subject-matter of claim 1 cannot be considered as involving an inventive step even when starting from the prior art described on page 1, lines 7-15, of the present application, from which the subject-matter of claim 1 differs only in that the electric circuit is adapted to measure a change of the capacity of the ICPs used as the sensitive element the electric properties of which are dependent on the amount of moisture with which it comes into contact.

The problem to be solved by the present invention might therefore be regarded as

providing an alternative to the moisture sensor known from said prior art.

However, the feature of providing an electric circuit for measuring the change in capacity of an element the electric properties of which are dependent on the amount of moisture with which it comes into contact has already been employed in a moisture sensor, see document D3. It would be therefore obvious to the person skilled in the art to at least consider applying this feature with corresponding effect to a sensor according to said prior art, thereby arriving at a moisture sensor according to claim 1.

4. Although the respective subject-matter of claims 2-8, 11, 17 and 18 is not disclosed as such in the available prior art, and is therefore novel (Article 33(2) PCT), dependent claims 2-8, 11, 17 and 18 do not appear to contain any additional features which, in combination with the features of claim 1 to which they refer, meet the requirements of the PCT with respect to inventive step, the reasons being that said dependent claims seem to relate to mere design modifications, consequential features of the basic sensor of claim 1, or conventional features (see e.g. documents D1-D4), and thus do not add anything inventive to the independent claim 1.
5. Claims 1-8, 11, 17 and 18 appear to satisfy the criterion of industrial applicability (Article 33(4) PCT), since the claimed invention can be used for detecting moisture.

Re Item VII

Certain defects in the international application

1. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
2. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D3 is not mentioned in the description, nor are these documents identified therein.

Moreover, a document reflecting the prior art described on page 1, lines 7-15, is not identified in the description.

3. According to the requirements of Rule 11.13(m) PCT, the same feature shall be denoted by the same reference sign throughout the application. This requirement is not met in view of the use of the reference numeral 8 both for a first side of a substrate (see e.g. page 4, line 21) and for a read-out device (see page 7, line 21), as well as of the reference numeral 28 both for a transponder (see e.g. page 7, line 9) and for a read-out unit (page 7, line 11).

Re Item VIII

Certain observations on the international application

1. The embodiments of the invention described on page 2, line 13 - page 3, line 6, on page 7, line 5 - page 8, line 3, on page 10, line 10 - page 11, line 5, and shown in figures 4a, 4b and 6 do not fall within the scope of the claims. This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear (Article 6 PCT).
2. The independent claim 1 is not supported by the description (Article 6 PCT), since its subject-matter is presented in the description (see page 1, lines 18-20) as a mere alternative.
3. Claim 11 is rendered unclear by the reference to "the second pair of electrodes", since there is no previous mention of such second pair of electrodes in claim 11 or in claim 1 on which said claim 11 is depending.

The combination of claim 18 with claim 7 when said claim 7 is depending on claim 1 is also rendered unclear by the reference to "the first side of the substrate", since there is no previous mention of such first side of a substrate in claim 7 or in claim 1.